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THE JOURNAL OF PHILOSOPHY

THE LOGIC OF INTERMEDIATE STEPS

A FAMILIAR form of argument in the natural sciences, especially in biology, psychology, and anthropology, is based upon the evidence afforded by the existence of intermediate stages between two conditions or processes whose nature or origin is in question. The existence of such intermediaries is commonly taken to indicate that the two extremes are either identical in essence or in structure, or at least that the one is a direct development and evolution or else a degradation of the other. In the biological sciences the treacherous character of this argument has, of course, long since been pointed out, and although it is often forgotten, it is generally true that in biology the logic of intermediaries will not stand alone, but must be supported by accessory evidence. The evolutionist can not live by paleontology alone; he requires also considerable contributions from embryology, the physiology and anatomy of rudimentary organs, and the demonstrable facts of variation and selection.

At least seventy-five years ago Hugh Miller objected to the argument based on intermediaries. In *Old Red Sandstone* (p. 39) he writes: "It is a law of nature that the chain of being from the lowest to the highest form of life should be, in some degree, a continuous chain; that the various classes of existence should shade into one another so that it often proves difficult to point out the exact line of demarcation where one class or family ends and another class or family begins. The naturalist passes from the vegetable to the animal tribes, scarcely aware, amid the perplexities of intermediate existence, at what points he quits the precincts of the one to enter on those of the other. All the animal families have in like manner their connecting links; and it is chiefly out of these that the writers such as Lamarck and Maillet construct their system. They confound gradation with progress. . . . And equally unsolid is the argument that from a principle of gradation in races would deduce a principle of progress in races."

More recently Bergson has objected to the attempts to expose the evolution of sense organs by the familiar plan of arranging the various available representatives in a series of graded complexity and

then assuming that there is some genuine, necessary, and genetic relation between these stages representing logical and structural progression. In *Creative Evolution* (p. 70) he writes: "It is unquestionable that the first rudiment of an eye is found in the pigment spot of the lower organisms; and there are a great number of intermediaries between the simple spot of pigment and a complicated eye like that of the vertebrates. But from the fact that we pass from one thing to another by degrees, it does not follow that the two things are of the same nature. From the fact that an orator falls in, at first, with the passions of his audience, in order to make himself master of them, it will not be concluded that *to follow* is the same as *to lead*. . . . The intermediate degrees between a pigment spot and an eye are nothing to the point: however numerous the degrees there will still be the same interval between the pigment spot and the eye as between a photograph and a photographic apparatus."

McDougall (*Mind and Body*, p. 233) offers much the same objection to the evidence presented by those who defend the strict mechanistic hypothesis. "We may . . . regard complex molecules of non-living matter as having begun gradually to exhibit the characteristic signs of life and mind; and yet we may maintain that this was due to the coöperation of a new factor. The assumption of the continuity of evolution of living things from inorganic matter, in the sense which rules out the incoming of any new factor, is a very great assumption which nothing compels us to accept; it has in fact but the slender basis of the demand for symmetry and simplicity made by our minds. The gap between the organic and the inorganic in nature is an immense one; the two kinds of material phenomena present fundamental differences, and there is every appearance of the incoming of a new factor with the first living things, a teleological factor which is capable of working against or controlling the physical law of the degradation of energy, a law which seems to rule throughout the inorganic world.

"Suppose that we had a full history of the evolution of organic beings from inorganic matter by slow steps of gradually increasing complexity of molecular organization; suppose that the progress of synthetic chemistry enabled us to produce the steps of this evolution in the chemical laboratory and to bring about the appearance of living organisms by way of *abiogenesis;* even that would not prove that the psychical did not begin to intervene in the material processes at the point at which the increasing complexity of molecular organization rendered possible the coöperation of this new factor."

Still more recently Bateson, in his presidential address before the

British Association (*Science,* Aug. 28, 1914, p. 298) points out that the possibility of arranging such logical progressions has actually obscured rather than clarified the theory of genetics. He writes: "In passing let us note how the history of the sweet pea belies those ideas of a continuous evolution with which we had formerly to contend. The big variations came first. The little ones have arisen later, as I suggest by fractionation. Presented with a collection of modern sweet peas, how prettily would the devotees of continuity have arranged them in a graduated series, showing how every intergrade could be found, passing from the full color of the wild Sicilian species in one direction to white, in the other to the deep purple of the 'Black Prince,' though happily we know these two to be among the earliest to have appeared."

In spite of the presence of such objections as these in biological literature, reliance on the logic of intermediaries has led to many a psychological, sociological, and philosophical enormity, and I have been especially interested in noting the frequency with which this has occurred in psychological exposition and interpretation. It seems worth while to consider this tendency in some detail. Before commenting further on the danger of the gradation fallacy I shall point out various places in the literature of psychology where the fallacy has been committed.

A very specific case of the fallacy is to be found in Clarke's paper on "Conscious Attitudes" (*American Journal of Psychology,* April, 1911). On the evidence of Clarke's work Titchener largely bases his "Law of Reduction," and it plays an important part in his general theory of the thought processes. Says Clarke: "The introspections of any one observer show different stages of clearness and intensity of imagery, which allow us to connect by a graded series of intermediate steps, a complex of vivid and explicit imagery with a vague and condensed consciousness which we suppose to represent what is called 'imageless thought.' The *aufgabe,* recognition, and the feeling of relation are shown to be capable of development by a process of change and mechanization, from states which are obviously complex and imaginal. . . . The general conclusion to be drawn from the sum of our results is that conscious attitudes can be analyzed into sensations and images and feelings, or traced genetically to such analyzable complexes, and therefore do not warrant the proposal of an additional conscious element. . . . Imageless thought, as its name implies, is, so far at least, an entirely negative concept."

The fallacious nature of the argument here is neatly indicated by the fact that Stout uses precisely a similar set of facts to prove

just the opposite conclusion. Thus he says (*Analytic Psychology*, Vol. 1, p. 83): "The graduated series of increasing degrees of indistinctness supplies a gradual transition from imaged to imageless apprehension. There is no abrupt separation between them. This in itself makes it easier to see that sensory images are not essential to thought."

Surely evidence which supports one side of a case as well as it does the other side, can hardly be considered relevant evidence. The mere fact that the graduated series of steps is observed within the experience of a single individual or during the progress of an investigation, which in the mind of the investigator represents a unit or a continuous process, is also irrelevant.

A second instance is found in Kropotkin's *Mutual Aid* (p. 137) when he writes as follows: "History finds great difficulties in restoring to life the institutions of the barbarians. At every step the historian meets with some faint indication which he is unable to explain with the aid of his own documents only. But a broad light is thrown on the past as soon as we refer to the institutions of the very numerous tribes which are still living under a social organization almost identical with that of our barbarian ancestors. Here we simply have the difficulty of choice, because the islands of the Pacific, the steppes of Asia, and the tablelands of Africa are real historical museums containing specimens of all possible intermediate stages which mankind has lived through when passing from the savage gentes up to the states organization. Let us examine a few of these specimens, . . . *etc.*"

The assumption here made that the logical arrangement which is possible as between these various geographical selections has any relation whatever to the actual phylogenetic relations and genetic study of the origins of institutions, is purely gratuitous. Indeed, the confession that there is a "difficulty of choice" ought to be enough to expose the fallacy.

Helmholtz, intending to demonstrate the identity of the nervous mechanisms underlying the experiences of tone and of noise, showed how steady transitions "between noises without any determinate pitch and compound noises with a determinate pitch may be produced." "This actually takes place," he said, "and herein lies the proof on which S. Exner has properly laid weight, that such noises must be perceived by those parts of the ear which act in distinguishing pitch" (Watt, *Psychology of Sound*, p. 35).

In a more recent discussion of the same problem, Watt accepts the possibility of intermediary experiences and of corresponding intermediate manipulations of the stimulating apparatus, as ade-

quate proof of the identity of the "sound atoms" making up the two types of experience. He writes: "We should thus have surveyed all the evidence that can be brought to bear upon the problem of noise. It is primarily psychological,—the whole trend of the variations of sound away from the perfect system and predominance of pitch that constitutes tone, toward multiplication and irregularity of pitch until such degrees are attained as completely baffle analysis. Parallel to this runs the evidence of the complication of the physical stimulus. These lines of evidence in conjunction with our theory of tone exclude any need for a separate being and origin in noise" (*Psychology of Sound*, p. 40).

A clear case of the argument and a neat illustration of its misuse are to be observed in Wundt's account of the institution of marriage (*Elements of Folk Psychology*, Trans. Schaub, p. 159). He writes: "Our summary reveals three main stages; marriage by capture, marriage by purchase, and marriage by contract. Between these modes of marriage, of course, there are transitional forms, which enable us to regard the course of development as constant. . . . The forms of totemic exogamy unmistakably constitute a developmental series."

It is especially to be noted that Wundt, in the above argument, draws his illustrations of these stages in the following naïve way. Marriage by capture is proven by referring to the dissension between Achilles and Agamemnon, the rape of the Sabines, and certain passages from *Deuteronomy* and *Judges*. Marriage by barter is proven by customs reported to have been observed among the primitive and tribal peoples of Australia. Marriage by contract is illustrated by current practises and by suggestions of a similar procedure among the Greeks and particularly by the Romans. In other words, here is the psychologist and logician and anthropologist, himself selecting samples from all parts of the world, arranging them in a logical sequence, and then asserting their "unmistakable" developmental continuity.

Wundt again relies on this principle when (p. 259), in discussing the conventionalization of art forms (especially tatooing), he says: "Nevertheless the fact that there are continuous transitions from the developed animal form to the geometrical ornament, as occurs particularly in America, is incontrovertible proof that such a conventionalization took place." It must be said that transition forms, such as Wundt indicates, are far from being "incontrovertible proof" that there was a genetic development and that the development, if present, was in the direction indicated. Especially is it true that transitions, without definite data indicating the temporal order of appearance, do not indicate the fact of development in that

order which may be most logical. It is perfectly proper for the anthropologist to make use of such indications, since they are usually the only kind of evidence he can present, but paucity of evidence does not justify asserting the "incontrovertibility" of such evidence as one may happen to have.

Similarly Brentano (*Psychologie*, pp. 308–309) attempts to identify conation and feeling, in part at least on the ground that it is possible to pass from one to the other through intermediaries which afford a gradual transition between the two extremes. "Let us consider the following series: sorrow, longing after an absent good, hope that it may come into our possession, desire to procure it, courage to make the attempt, voluntary determination which issues in action. One end-term is feeling, the other is volition, and they appear to be separated from each other by a wide interval; but if we consider the intermediate terms and compare those only which are adjacent to each other in the series, do we not everywhere find the closest affinity and an almost imperceptible transition? If we are to draw a dividing line between feelings and strivings, how are we to distribute the several phases of consciousness under their appropriate heads?"

Stout, in examining Brentano's analysis (*Analytic Psychology*, p. 118) takes objection to this form of argument, and points out that "a similar method of reasoning would lead us to deny any essential difference between blue and green, on the ground that one may pass into the other by insensible gradations through an intermediate series of blue-greens and green blues." But Stout resorts to the same logic only fifty-five pages further on, when he endeavors to refute Bradley and to show the unreality of "passive consciousness." He writes (p. 171): "It thus appears that the antithesis of active and passive states of mind is not absolute; instead of a well-marked transition from the presence of activity to its complete absence, we find a series of insensible gradations, and the most perfect instances of passivity are found where consciousness itself is almost at a vanishing point. . . . We may then conclude that there is no purely passive content in consciousness."

This argumentative procedure of Brentano and Stout contrasts unfavorably with the more careful logical technique of Pillsbury in his *Psychology of Reasoning*. In tracing the steps from the simple perceptual appreciations to the elaborate acts of inference, Pillsbury finds the transition characterized throughout by abundant intermediate gradations. But nowhere does he rely on these transition processes for proof of the identity of the psychological mechanisms. At most the presence of the intermediaries is used only as confirm-

atory of conclusions reached on the basis of immediate qualitative analysis.

In Bergson's discussion of the relation of perception and affection (*Matter and Memory*, pp. 51–57) the argument through intermediaries is again assailed, and although I can make little out of the content of his exposition, his motive seems well justified on formal grounds.

The various arguments on the principle of intermediaries, such as those of Clarke, Titchener, Brentano, Stout, Kropotkin, Helmholtz, Watt, and Wundt (with due respect to this august array of names), remind one of the ancient contention of Heraclitus, who held that "being and non-being, life and death, origin and decay, are the same, since, if they were not they could not be transformed into each other." These arguments all proceed on the assumption that the existence of morphological intermediaries attests either identity of essential nature or genetic relationship.

One might just as correctly argue that the steamship is a direct descendant of the sailing vessel and that steam and wind are only different degrees of complexity of the same motive power. In the shift from sailing vessels to steam boats the following closely related intermediate stages can easily be made out in any shipping yard:

1. Vessels moved solely by wind.
2. Vessels moved usually by wind but containing an engine which is used in emergencies.
3. Vessels depending on both means of propulsion, equally or under different circumstances (as engine when just off shore or in river and harbor, sails on the high seas).
4. Vessels propelling usually by steam, but equipped with sails which may be used in case of accident to the machinery.
5. Steam vessels, too large for propulsion by wind, but with masts still retained and used for flags, signals, lookouts, and wireless apparatus.
6. Vessels with no masts, in the strict sense, but with steel uprights for flags, signals, wireless, *etc.*
7. And finally, yachts, motor boats, and torpedo boats, without the faintest traces of masts or other elements of wind power apparatus.

In spite of this series of structural intermediaries, however, engineers consider the twin screw and the mast and sail to be fundamentally different types of propulsion. Moreover, one would be quite wrong in inferring that the steamboat evolved as a gradual modification and transformation of the sailing vessel. It is doubtful at once if any sailing vessel ever developed into a steamboat; cer-

tainly they do not habitually do so. And in John Hutching's view of "Collect Pond and Its Vicinity," in the Van Cortlandt Mansion museum, occur diagrams of the original steamboat models of John Fitch, who with Robert Fulton shares the honor of inventing and demonstrating the methods of steam navigation. None of these models contains indications of either sail or mast.

What happened historically was that as the new and distinct type of power developed and the paddle wheel and screw became perfected, the other devices came to be less and less relied on. To say that the imageless thought is "a mere negation" because it has never been described is much the same thing as saying that steam power is a mere negation because its mechanism is mainly below the water line and concealed from the deck crew of the vessel. To be sure, steam power can not be described in terms of halyards and jibs and mizzen-masts; but it is not, therefore, a mere negation of wind power. Nor would it be even if one knew nothing in detail about the principles of steam and gasoline engines, paddle wheels and twin screws. One might as well insist that a "horseless carriage" is a mere negation and non-existent because one can not describe it in terms of quadrupeds and harness. It is not only legitimate, but it may be highly useful and significant, to conceive of thought processes that are not borne along by sails of sensation and imagery at all, although their mechanism be still quite unknown.

The parallel between water craft and thought processes is perfect. And there are many other series within which intermediate steps can be discerned, and yet in which the extremes or limits are felt to be sufficiently distinct to count as "elements" within the given universe of discourse. Red and yellow, in spite of the orange intermediaries, count as elementary in color theory; warmth and cold, in spite of their numerous transition degrees, involve distinct sets of receptors; and the existence of mulattos by no means leads anthropologists to identify the Negro and the Caucasian strains, nor to infer that one developed from the other. The fact that the stars may be arranged in an order of magnitude or brightness proves neither that small stars were once large nor that large stars were once small.

The argument from the existence of intermediaries is, of course, only a special case of the logical fallacy of "affirming the consequent." If there be genetic relation and identity of elementary character, then intermediate morphological stages may be expected, and if they can not be found, the relationship may properly be questioned. But the discovery of gradation is no *proof* of such relationship or identity. The absence of the consequent is significant, but

its presence is meaningless or equivocal. Nevertheless, "affirming the consequent" seems to be the most alluring fallacy of them all to the empirical scientist.

It is easy to point out cases of this general fallacy in classical psychological studies, although it may be ungracious to do so and may well warn the critic to "mind his step." Thus Wolfe's assumption of changes in the auditory image as responsible for the constant errors of tonal comparison is a typical case of affirming the consequent. Lehmann, again, in his study of recognition, refers to Wolfe's work and proceeds, as he asserts, to put the theory to experimental test. Strangely enough, he begins with the same fallacy. He begins by asking what would follow if the theory were true. Finding the expectation confirmed in his data, he then concludes that "the doctrine satisfies all the demands of a scientific hypothesis and is fully demonstrated."

Leuba, as late as 1909, concluded that "the comparison of the length of arm movements is made through the comparison of the duration of one or the other of the several sensations arising from the movement, and of a particular value of the joint sensation" called by him the "rate value." His chief argument is based on the proposition that the durations of movements judged shorter, equal, or longer than a standard turn out to be shorter, equal, or longer as compared with the duration of the standard. Now even if such correspondence were perfect, it would, of course, throw no light on the process or data of the comparison. If accurate record had been kept of the depth of the wrinkles in the loose glove or sleeve which covered the arm of the subject, the same positive correlation would have been found. But this would not even suggest that the depth of the wrinkles was the basis of the judgment. To show that the durations do not agree as closely as do the extents, or to deny the consequent, yields important evidence, but merely to affirm the consequent proves nothing.

Perhaps the most conspicuous use of the affirmed consequent in recent years is in the dogmas of Freud and his apostles. Almost every one of these dogmas is based, when based at all, on some such fallacy as "If we suppose that X is true, we will find Y and Z as consequents. Wherever we turn, to infancy, mythology, totemism, religion, art, blunders, dreams, or neuroses, we find Y's and Z's. No one, therefore, can doubt that X is true."

No doubt it seems silly for me to harp so insistently on these obvious fallacies, which every freshman, from his course in formal logic, learns to call by name. But three facts can be cited as responsible for my risking offense, and to my mind, as justifying it. The

first is that formal logic has become unpopular in recent years. The second is that even those who know the names of fallacies often restrict their acquaintance at this point. The third is, as my tedious series of examples shows, that even those who teach the names of fallacies have not always avoided these fallacies in practice.

I will close with one or two more encouraging illustrations in order not to insinuate that I believe myself alone in virtue. Darwin (*Origin of Species,* pp. 197–204) wrote that the difficulties encountered by his theory might be classified under two heads. One of these was "Why, if species have descended from other species by fine gradations, do we not see everywhere innumerable transition forms? . . . If my theory be true numberless intermediate varieties linking closely together all the species of the same group must assuredly have existed." The theory, it should be noted, was maintained in spite of the absence of intermediaries, and Darwin would seem to have perceived that although their absence constituted a real obstacle, their presence would have been no proof, but only a satisfying and confirmatory suggestion.

Meumann (*Psychology of Learning,* p. 41) in distinguishing between immediate, temporary, and permanent retention, says: "These distinctions . . . have been disputed, it is true, but I believe for insufficient reasons. Opponents of these distinctions usually maintain that these three functions of memory are not radically different, but that transitions may be found between immediate and permanent retention. That is self-evident, but it does not constitute a valid objection to the distinction. In not a single instance where particular functions within the intellect are differentiated can we have to do with wholly incomparable functions which possess no characteristic in common, and which show no transitions or gradations from one into another. It is possible, for instance, to indicate a great many characteristics which are common to memory, to imagination, and to thought; and we can find common elements and transition stages in external and internal perception, in sensation and reproduction, *etc.* . . . The objection in question might equally well be urged against every sort of psychological classification."

In Woodworth's paper on "A Revision of Imageless Thought" (*Psych. Rev.,* Jan., 1915) there is registered a somewhat similar objection, in referring to that conception according to which the presence or discovery of graded steps of imagery is taken to mean "progressive automatism of a thought through practise." "The undoubted attractiveness of this conception comes from its following so neatly from the law of practise, and its deficiencies arise from its taking account of only one side of the practise effect. There is much

in practise besides the tendency to automatism. Seldom does the course of training consist of repeating time after time the same performance, only with increasing smoothness and speed. Usually the process begins with varied and tentative reactions, and advances by selection and elimination. Moreover, new forms of reaction, made possible by the progress in facility, make their appearance in the course of training. Thus the perfected act omits elements present at the start, and contains elements not present at the start, and may be an entirely new means of reaching the same result. If, therefore, the first thinking on a given topic is fraught with imagery, while the practised thought on the same topic is bare of images, it does not in the least follow that the imageless thought is a condensation of the imaginal. It may be a more economical substitute."

The argument from intermediaries is so attractive that it is far from easy to avoid it. Even when it does not constitute the main argument, as when an identification is made on other grounds, and the presence of intermediaries is merely adduced as confirmatory, as in Darwin's case, the careless reader is likely to take the confirmatory evidence as the actual ground of belief. Indeed, the writer has been accused of using just the type of evidence he is here criticizing in his paper on the "Psychophysical Continuum" (this JOURNAL, Vol. XIII, pp. 182–190), in that intermediaries are introduced in order to demonstrate the identity or continuity of the two extremes of a series. But the fact is that in this instance no attempt is made to *prove* the thesis of continuity on the ground of the intermediaries. It is simply shown, by adducing them, that they are found in accordance with the expectations which are fundamentally based on other grounds.

Finally, the fallacious character and the inadequacy of the logic of intermediaries should be fully recognized in the psychological sciences. It is especially difficult in such work even to approximate the embryological and variational methods of more strictly biological inquiry. Immediate mental experiences, as James so clearly pointed out, tend to become fossils the moment we describe, analyze, and arrange them. But this tendency does not validate the paleontological argument. The logic that was so annoying to the diligent author of *Old Red Sandstone,* and that has been responsible for so many errors in the interpretation of human institutions, language, religion, government, marriage, family relations, and origins, is no fit instrument for the analysis of the immediate experience of the individual. "From the fact that we pass from one thing to another by degrees, it does not follow that the two things are of the same nature."

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III. THE RIVALS AND SUBSTITUTES FOR REASON[1]

2. Pure Experience

Authoritarianism attacks reason because it is individualistic, and empiricism attacks it on the opposite ground that it is not the experience of the individual at any one moment. These two arguments (*a*) easily pass into each other, for (*b*) despite genuine differences, (*c*) they have much in common.

(*a*) The ease and frequency of the transition from emphasis on authority to emphasis on individual experience, can be readily understood, when we remember that an effective appeal to authority is never to something abstract—authority in general—but to something particular, *e.g.*, the Church (specifically Council or Pope), a specific interpretation of the Bible, actual decisions of the United States Supreme Court, the infallible dicta of dictionary writers, *etc.* As these authorities themselves have to be defended, their devotees must appeal to the facts of experience or history. This is the case in Christian apologetics from St. Augustine to De Maistre, or in the Marxian and other interpretations of history. In ecclesiastical as in other social controversies all argumentation as such necessarily involves an appeal to individual conscience or sense of truth.

Nor is the converse transition of argument from experience to authority infrequent. For those who emphasize individual experience are seldom willing to admit the experience of others that is directly contrary to their own. Carrying open-mindedness to the extent of believing that everything is possible would land us in a chaotic world of superstition unlike anything we call sanity. In practice some experiences always have more authority than others and we can seldom grant full freedom of conscience to those who threaten to destroy us. The true interpretation of the Bible means the interpretation of our own particular sect or group. In general, arguments for freedom, for reliance on individual experience, must, if they are to be effective, appeal to the authority of some commonly accepted belief.

(*b*) This easy transition between authoritarianism and individualistic empiricism does not, of course, deny their opposition; and it is well, before considering the empiricist attack on rationalism, to note carefully that the philosophy of experience can be, and in its early stages certainly was, much more an aversion for arbitrary authority than a preference for anti-rationalism. This is clearly seen in Locke's attack on innate ideas. Locke, as a liberal and thorough believer in toleration, is opposed to political and ecclesiastical dogmas

[1] Continued from Nos. 5 and 6.

of the type of divine rights of kings, *etc.* His scepticism is the scepticism of science, which is a disinclination to have the road of critical rational inquiry into genuine problems closed by plausibly-sounding dogmas.

(*c*) Yet we do certainly find empiricism and authoritarianism closely united to-day by their common aversion for the fluid state of doubt and uncertainty which reasoning develops. The empiricist love of fact certainly often hides a disinclination to enter into the disturbing inquiry as to how much of what we commonly regard as fact is the result of traditional interpretations based on authoritatively accepted dogmas. Practical men of affairs who profess to distrust all theory and loudly call for the facts are only too frequently the last to recognize how much of the so-called facts is just old hardened theory. So empirical philosophers, believing themselves bent upon eliminating all rational or metaphysical constructions from pure experience, may really be engaged in a pitiless effort to adhere consistently to certain fashionable dogmas accepted on the authority of the supposed results of science. This is another illustration of crypto-rationalism.

Philosophy, like science, must necessarily aim at consistency, though it may recognize that its absolute attainment is denied to finite, growing mortals. Physical science has found that the pursuit of consistency is made easier by giving up the use of terms that have an honorific rather than a descriptive value. But as philosophy moves in an obscurer and emotionally thicker atmosphere its path is filled with words that attract or repel us regardless of what they denote or whether they denote anything at all. The word "experience" has certainly become one of these terms. Its bare use provides a feeling of safety and elation, of belonging to the philosophically elect, and of being able to pass all the sentinels and watch-dogs of philosophical criticism. But it is very difficult to find any meaning of the term common to absolutists like Bradley and humanists like Schiller, empirio-criticists like Avenarius and supernaturalists like James. It is even difficult to find any one school always using it in some one identifiable sense. For the tendency to make a term cover everything necessarily prevents it from denoting anything definite. Originally, of course, experience stood and it still stands for something in our personal history, something that we have tried, felt, or passed through. But as no individual can in this sense experience anything but an infinitesimal part of the world, and as even the collected experience of all humanity is confined to a very small part of the vaster and, in the main, unexplored world of time and space, it is obvious that no philosophy can identify the whole world with experience except by unconscionably stretching the lat-

ter term. This process is facilitated by applying the term "experience" to objects which have not been experienced at all, but which are held to have the possibility of becoming under certain conditions objects of experience. But observe that if the mere consideration of an object in discourse or thought thereby makes it an object of experience, we must apply the latter term to the battles that Napoleon would have fought if he had won at Waterloo, centaurs, and even round squares. Obviously, in this sense of the term nothing specific could be determined by experience alone. Few adherents of the philosophy of experience would, however, accept this result. They obviously wish to regard experience as something "thicker," something more intimately or vitally connected with sensations or personal feelings. But apart from the classical difficulties of subjectivism, or of identifying objects of sensation with the sensations of objects, it is quite clear that the world of philosophy and of any science that is not merely autobiographic can not be confined to what we have actually experienced.

If, however, we recognize that the world is constituted by objects of possible as well as of actual experiences, there is no way of maintaining that rationality is not a part of the objective world. For clearly, purely logical considerations as well as past experiences are involved in determining what is possible. The rationalist, who believes that the objects of logical and mathematical reasoning are integral parts of the natural world, need not assert that rationality alone, without any matter or content, determines physical existence or constitutes experience. But when radical empiricists draw sharp antitheses between experience and the objects of reason, they are certainly bent on denying the reality of the latter. Of course, if reality is used to denote psychological vividness, there can be no doubt that for most people sensational elements have a superior reality, being more stable, vivid, and massive, as contrasted with logical relations which can be grasped only after intellectual effort. But not even the empiricist can eat his cake and have it too. He can not *select* or *abstract* the vivid elements and then deny the existence of everything else. Nor can he justly declare the possibility of a sensation to be itself nothing but a sensation. The fact that experience may be analyzed into sensational elements is no more a denial of rational relations, than the analysis of sentences into words is a denial of the existence of significant sentences, sentences constituted not only by words, but also by integrating relations of order between the words. The analysis of matter into atoms does not deny the necessity of relations between the atoms to constitute matter.

These considerations may become clearer if we apply them to some typical empiricists.

The most thoroughgoing and, despite his most unfortunate linguistic apparatus, the most influential apostle of pure experience is Avenarius. Entertaining a wholesome respect for empirical biology and a truth-lover's repugnance for the fantastic effort to enthrone all sorts of supernatural or anthropomorphic entities on the basis of an idealistic analysis of knowledge, Avenarius wishes to purify our world-view by returning to the natural view of experience as it existed before it was vitiated by the sophistications of thought (in the form of introjection). But the empiricist's uncritical use of the category of *the given* and the nominalistic dogma (common to some idealists and all empiricistic positivists) that logical relations are created rather than discovered by thought, lead Avenarius to banish not only animism and other myths, but also all the categories, substance, causality, *etc.*, as inventions of the mind. In doing this he runs afoul of the great insight of Kant that without concept or categories percepts are blind. For what can we truly say of a world of pure experience if none of the categories, such as unity and plurality, apply to it? Such a world could be neither one nor many, neither permanent nor changing. And what affirmation about it could then be true or false?

Moreover, as Avenarius' whole enterprise begins in the effort to explain thought in terms of biological function, his argument in fact presupposes the use of categories in the science of physiology. Some recognition of this leads him in his later work to deny that thought is a biologic function and to assert that thought distinctions are as objective for parts of experience as sense data. But in the main his holding fast to pure or immediate experience, while denying subjective idealism, compels him to draw the distinction between the real and the ideal within experience itself, and this is, in the main, the distinction between sensation and conceptual thought. Sensation alone is then identified with the real, and intellectual or rational elements are banished to the realm of fiction.

Avenarius, even more than Mill and other positivists, represents a noble type of high and rare devotion to truth as the supreme consideration in philosophy. Yet the insistence by him and by Mach on the biologic and economic function of thought, has provided a basis for those who belittle the truth-value of physical science and dismiss it as only a practical device to organize physical experience in the most convenient way. This illustrates how even a critical empiricist can transform the "results" of science into vicious dogmas by applying them to alien fields where they have not been proved. It was Spencer who first used the argument that as thought has arisen in the biologic struggle for existence, it must serve a useful biologic purpose. Despite the fact that this argument has been

accepted by Mach, Avenarius, Simmel, James, Dewey, and others, we ought to have no hesitation in denying it any force or even relevance in any discussion as to the logical nature of truth. It is but a thinly veiled form of the old theologic argument that whatever Providence or Nature brings forth must have a useful purpose. The actual existence of biologic disharmonies in the human and other organisms is beyond dispute; and in any case it is not seemly for positivists to deny that all sorts of unhygienic superstitions have actually arisen and persisted in the process of human history or evolution. We have no certain knowledge as to what races will ultimately be eliminated on account of their false philosophic views, and even if it were true that mathematicians and other intense and intellectual workers leave a smaller progeny, it would in no way bear on the truth or falsity of any mathematician's theorem.

Behind the hard technical vocabulary and the long, painful, intellectual labor, the reader of Avenarius can readily note the single-minded zeal of the reformer. It is instructive to observe the parallel between his appeal for a return to a natural world-view, uncorrupted by the artificialities of conceptual thought, and the romantic appeal for a return to a state of nature uncorrupted by the artificialities of civilization. There is an obvious element of Utopianism in both appeals. Primitive man of past or present is in fact not a paragon of virtue, and the plain, unsophisticated man has no coherent philosophy. If the primitive state were one of virtue and satisfaction, the positivist believer in progress could never give us a naturalistic explanation of why man ever abandoned this state; nor if the plain man ever had a satisfactory coherent philosophy, how any other could have arisen in its place. Actually the thought of the plain or primitive man is, as Avenarius himself recognizes, full of all sorts of animistic and other gross absurdities.

It is easy for unsympathetic opponents to assert that this sort of Utopian primitivism is itself the product of artificiality and sophistication; and that, in the language of Santayana, nothing is so foreign to the plain man as the corrupt desire for simplicity. But a sober regard for the perennial resurgence of Utopianism will recognize its permanent elements of value—despite the absurdities of the ladies of Versailles dressing like shepherdesses, or Rousseau trying to educate Émile "according to nature" by a most elaborate set of artifices invented by an inhuman tutor to keep his charge separated from natural society. The fact is that so long as man falls short of omniscience his thought is bound to develop errors and his civilization is bound to develop absurd artificialities, even as disease is a natural product of evolution. In this state of affairs a certain imaginative retracing of our steps in the forest of error is often necessary. We

must visualize a more desirable state of affairs to liberate us from brute bondage to the actual. The vice of romanticism is not its ideal, but its failure to submit its ideal construction to rational criticism, its lazy identification of the ideal with some exotic or historically remote actuality. It may well be contended that it is not of the essence of Avenarius' position that the natural world view should be put in the past, that he himself and disciples like Petzoldt also speak of it as the view of the future. This is in a sense true, yet it is of the essence of the anti-rationalism of Avenarius, as of other romantic positivists since Bacon, to seek a return to some *tabula rasa*, to cleanse the mind by some absolute purgative before the truth can stream in on us. The true method of science is to cure speculative excesses, not by a return to pure experience devoid of all assumptions, but by multiplying through pure logic the number of these assumptions, mathematically deducing their various consequences, and then confronting everyone with its rivals and the experimental facts that can be generally established. The history of science certainly shows that effective scientific search depends above all on the volume of previous knowledge. The ignorant, no matter how well cleansed of metaphysical bias, never make any discoveries in science. It is doubtless necessary for science frequently to re-examine established opinions and re-open issues supposed to have been closed. But in the main, progress is effected not by going back to a *tabula rasa* of pure experience, but by further effective thought. Mental as well as bodily health may sometimes call for purgatives. But western civilization has discovered that the main road to purification is through proper nourishment and exercise, not through trying to stop the processes of life, or trying to recover our childhood by magic elixirs.

The anti-rationalism which results from stressing the sensational elements of experience is illustrated even more clearly by Mach than by Avenarius.

No one who appreciates the splendid logical as well as historical achievements of Mach's *Mechanics*—especially his elimination of the ghost of absolute space from experimental physics and thus preparing the way for Einstein's great work—can lightly venture to associate Mach with anti-rationalism. Yet, those who disdainfully characterize the mathematical elements of exact science as mere "fictions," "convenient but devoid of real truth," undoubtedly draw nourishment from him. How does this come about? The reading of his *Analysis of Sensations* makes this clear. It is the excessive fear of metaphysics which makes him emphasize sensations or experiential elements to the utter neglect of the organizing relations which science actually finds to be involved in the very existence of these elements. It can not be too often insisted that elements or sen-

sations are not really "given," but are the result of analysis of things or of the flow of mental life.

If logical or mathematical relations are to be called unreal because they are abstracted from things or experience, elements or sensations are surely just as abstract and have no more existence apart from the physical or mental world where they are found. The actual assumption of all scientific investigation is a world capable of being analyzed into elements-in-relation. Any attempt to leave out the elements or the relations can result only in confusion. Mach himself certainly fails to give a consistent or coherent account of the physical or mental world. Surely elements without causal or other relations can not of themselves constitute the moving or throbbing world of experience. His brave effort to reduce all bodies to thought-symbols, and all mind or selves to "make-shifts designed [by whom?] for provisional orientation," can not but break down. For these thought-symbols and provisional unities somehow engage in a real struggle for existence—a struggle in which there seem to be real purposes and causal effects of economic procedures. Indeed, it is most wondrous that the mind, a mere symbol for sensations, after all, invents or creates non-sensational elements. Nor is it consistent to put the elements in the physical world and their mathematical relations in the mind only. For a mathematical relation, like the number of the revolutions that the earth makes around its axis before it completes a single revolution around the sun, is a fact of physics not of psychology. It is doubtless true that the study of mathematical relations vastly increases our power of manipulating the things of experience. But the argument that because they are so useful they correspond to nothing in the real world, is a *non-sequitur*. "What," Mach naïvely asks, "have vibrating strings to do with circular functions?" "But," we may ask in turn, "how could these functions guide us to the discovery of so many physical properties of vibrating strings and other phenomena, if they had nothing to do with the physical facts?" Mach and others are misled by the fact that mathematical functions are not copies of sensational elements. This, however, need not prevent them from representing groups of relations which do characterize physical processes. Mathematical functions are the more useful the less the relations studied are restricted to particular realms and the more widespread the processes which they characterize. Mach's resolution to treat material things as mere symbols for sensations led him to deny the reality of atoms—a denial which would have been fatal to a great deal of fruitful research in physics if physicists had taken this view of Mach as seriously as have idealistic philosophers and theologians.

A quaint bit of naïveté is Mach's argument that his denial of the

reality of self will make for unselfishness. How can there be any selfishness to overcome if there is no self?

The difficulties of reducing actual psychic life to sensational elements alone, were realized by no one more keenly than by James as a psychologist. His radical empiricism is in harmony with the efforts of Schuppe (and at times of Avenarius himself) to show that logical relations are just as much a part of the natural world as the sensations related. How, then, does James come in the end to draw so strong an opposition between experience and logical or conceptual thought? How can experience include everything important and yet exclude conceptual thought? The point is worth examining, not only to clear up the specific confusion which the term "experience" covers, but also because it illustrates how generally fertile in confusion is every monistic effort to reduce the world exclusively to any one of two polar categories. (By polar categories I mean such as unity and plurality, subject and object, form and content, change and constancy, existence and validity, *etc.*) The term "experience" usually denotes something that happens to an individual in a world where many, or possibly most things, do not happen to him at all. If the term is stretched to apply to everything, so that there is nothing which is not in experience, it fails to differentiate anything and ceases to have any definite denotation. In practice, however, it is humanly impossible to be faithful to the resolution to use an old term in a new meaning (or absence of meaning), and we, in fact, fall back on its habitual connotation. Thus in denying any reality to the objects of logical or conceptual thought (which he does when he asserts that they have no theoretic or cognitive value) James in fact falls back on the view which conceives of real experience as exclusively immediate feeling or sensation. Being, temperamentally, especially interested in this immediate and vivid aspect of the world, he falls into the "intellectualistic" fallacy of denying the existence of any other phase or aspect. To deny the reality of anything because it can not be deduced from a formal or explicit definition is rightly condemned by James as vicious intellectualism. But his own procedure amounts to a denial of all that is not included in his unavowed definition of experience as immediate and vivid sensations. But though in this denial of the objectivity of conceptual relations James falls back on the traditional sensationalism or nominalism of British psychology, his effort to enlarge the concept of experience is significant of real dissatisfaction with the traditional empiricism. As an honest observer of actualities he is compelled to admit that not only the world of past and future which our ideas mean or intend, but even life itself, is more than immediate. Conscious life itself is not exhausted by what merely is. It always

means something that is not yet, "an ideal presence which is absent in fact." The "ever not quite" true of the best attempts at all-inclusiveness must, according to James, be true of experience itself. Pure immediate experience may be the possession of a baby or of one who has been stunned by a blow. In the conscious life of those who can be said to have any mentality, things are already related and conceptualized. The formation of abstract concepts "does at first make things intelligible." Nay, both theoretically and practically "this power of framing abstract concepts is one of the sublimest of our human prerogatives." Against the usual nominalistic view that concepts are mind-made, we have James' own admission that they are "extracts from the actual temporal flux." In his arguments against the reality of concepts James seems to think exclusively of class-concepts. But even here he is compelled to make the admission that "things seem once for all to have been created in kinds." The great hosts of scientific concepts, however, are not of things but of processes; and it is hard to imagine that if James had in mind the procedure of actual physics or biology with such concepts as motion, velocity, energy, life, growth, *etc.*, he could have persisted in the absurd contention that concepts are static and can have no theoretical value.

It seems to me of some importance to realize that James' hostility to logic was not necessitated by any of his psychological observations. To see the motives which led him to espouse Bergson's extreme anti-intellectualism, we must reflect on the peculiar fascination and repulsion which the neo-Hegelian, and especially the Bradleyan argument for the absolute, had for him. There is a very little difference in content between Bradley's absolute as experience and Bergson's absolute intuition, which James identifies with pure experience. They all postulate the fusion of unity and plurality in an experience that passes logical understanding or discursive reason. But James, having no taste or aptitude for rigorous logic, wished to defend his theism or vitalistic view of the world by the empirical evidence of abnormal psychology. Against such efforts the pitiless scepticism of Bradley's logic is radically destructive. We are all worried more by those who wish to attain our own end in ways that are different than by those who reject our entire aim. Thus Jesus could ignore the worldly Sadducees, but was spurred to anger by the Pharisees who aimed to attain spirituality by ways radically different from his own. So James is driven to extreme anti-rationalism, not by rank outsiders who reject the idealistic or vitalistic universe, but by those who would establish it by cold and seemingly lifeless logic.

Though, under the influence of Bergson, James sometimes expresses himself as an extreme mystic, having faith only in the utterly

ineffable experience from which discursive logic must be cut out in entirety, he at other times recognizes that logic has its utility. His opposition is only, except in moments of extreme wrath, to the Bradleyan logic of identity. James' essential point here is that in the world of experience things change and yet retain their identity, while Bradley's logic seems to deny that this is possible. If we start with noting the diversity and activity of ordinary life, this criticism on Bradley's logic seems unanswerable. But if we are to avoid the vicious intellectualism which James condemns, we must recognize here that both sides are right in what they affirm and wrong only in what they deny. Bradley is certainly right in insisting that the identical remains identical. If you deny that things are what they are, you annihilate all reason, sanity, and discourse. Thus James himself has to be certain that it is the "same" nucleus, that the "same" point can be on diverse lines, *etc.* It is no error, but a useful caution, to remember that a horseman can not be a pedestrian in so far as he is a horseman. James, on the other hand, is perfectly right in insisting that things are not only what they are, but become different without destroying their identity. To argue that a man who is at one time a horseman can not at another time be a pedestrian, is not a necessity of logic, but a gratuitous denial that the unity of time can include diversity of moments. James overshoots his mark, therefore, when he condemns all logic. Indeed, he might even have accepted Bradley's own interpretation of his logic and have argued that since unity and diversity are united in absolute reality they must be conjoined in all that in any sense truly exists. In any case all of James' objections to logical thought (because it is not pure immediate sentiency) have been stated more fully and forcibly by Bradley himself. The serious difficulty of the latter is not in clinging to logic, but in gratuitously identifying two different conceptions of reality, *viz.*, the absolute totality and immediate feeling. But this is precisely the difficulty which empiricism can never get rid of so long as it seeks to construct the universe out of pure immediate experience. If there is any universe at all, it must be more than immediacy. This lesson will be re-enforced by an examination of intuitionism.

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BOOK REVIEWS

Il Silenzio e L'Educazione dello Spirito. GIACOMO TAURO. Roma: Società Editrice Dante Alighieri di Albrighi, Segati e.C., 1922. Pp. x + 367.

This suggestive book is the outcome of a course of study and reflection considerably prolonged. The first idea of the work occurred to the author, Professor Tauro, in connection with his pedagogical lectures in Rome. Later he discussed the subject before the Fourth International Congress of Philosophy at Bologna. Since then he has given continued consideration to its various phases—historical, psychological, educational—until the present treatise presents his results in matured and developed form.

After the Introduction, the book divides into three principal parts. Part I deals with the Psychology of Silence; Part II with its Pedagogy; Part III gives a rapid historical survey, with special reference to the cultural bearings of the matter. Part I—*Psicologia del Silenzio*—considers the Concept of Silence, the Degrees and Forms of Psychic Silence, its Relations to the Various Activities of the Spirit, and the Systematic Results of the Psychological Inquiry. For *il silenzio,* in the author's conception, means much more than the absence of sound, or even abstention—on the part of others or of self, involuntary or voluntary—from outward speech. It includes among its degrees and forms the suppression of inner speech as well; and, further, the limitation, tending toward the vanishing point, of concrete mental functioning, whether this restriction takes place by way of fatigue or exhaustion, by way of inner concentration, or by way of pause preparatory to the renewed and heightened exercise of spiritual energy. Thus *il silenzio psichico* may serve divers ends and attach itself to various functions of the mental life. Now it is a means of refreshment and revival, anon it promotes some definite mental process, or forms a condition indispensable to this. It is the suspension of activity or moment of arrest preceding the concentration and direction of consciousness which constitute attention. It pervades the selective activity essential to perception, to memory, to association. It is the instrument for the attainment of self-consciousness. Above all, it forms the pre-condition of the supreme mental function, meditation and reflection, whether this be considered as conceptual thinking, as creative invention, or as the productive activity of the artist or of the ethical and religious leaders of mankind.

Throughout this discussion Professor Tauro shows himself familiar with a wide range of psychological literature and the conclusions of the various schools. His own method would be classed

by some under the "analytic" rather than the "experimental" type. The fortunate influence of this comprehensive view is evidenced by the character of his results. The account, for instance, of the nature and the stages of reflective spiritual activity is not unduly extended. But it is singularly incisive, one might say, refreshing, in comparison with the flood of minute inquiries in recent years. In particular, the contrast which is drawn between consciousness as reaction to stimuli from without and as reflection—making use of outward data, but combining and refashioning these in relation to its own inner ends—is no less true to fact than it is germane to the pedagogical purpose of the inquiry. And when the author brings such conclusions into connection with the cultural development of his people and their needs as they grapple with the conditions left by the great war, appreciation of the justness of his analysis is completed by a realization of the energy and insight with which he and his fellow-countrymen are attacking the problems of the national life.

Part II, *Pedagogia del Silenzio,* includes chapters on general educational problems and others which treat of the special applications of pedagogical theory. Chapter I, *La formazione dello spirito e il Silenzio,* urges that the formation of the spirit is promoted by training from without, transmuted finally into autonomous self-control. This process implies the use of silence, especially in view of the relation of speech to thought. Training in silence is one aspect of the education of the will, as negative volition or inhibition. As such, it is not, however, opposed to the modern ideal of education for social activity, but a phase within this and instrumental to it. Chapter II considers silence in the school, as connected, on the one hand, with catechetical instruction and, on the other, with exposition. In relation to the development of personality (chapter III) silence is discussed as instrumental to the unification of personality and to self-control. Since social factors as well as individual tendencies are involved, and since speech is the vehicle of social intercourse, silence, complementary to speech, forms an essential moment in the developmental process. Chapter IV, *La Pausa,* describes the phenomenon of pause in speaking, hearing, writing. The significance of silence in the technique of discourse leads on to an investigation of reticence, occasional or prolonged, and this not only in its psychological, but its ethical and social bearings. The final chapters, V–VI, are closely connected. In the former, *L'educazione della vita interiore e il Silenzio,* Professor Tauro examines religious education, with its two traditional factors, one mystical, one ethical, the second based on the first and deriving power from it. In this connection he recalls the modern doctrine of the subconscious background of conscious life, and concludes that mysticism, whatever be the truth of its meta-

physical doctrine and however grave the danger of practical exaggerations, has its roots in psychological fact. Within limits, also, the method of self-examination, intellectual and moral, is of value; and self-examination presupposes the practice of silence. Chapter VI, *L'auto-coscienza e il Silenzio,* shows self-examination the bridge to self-consciousness, and both implying silence. Self-consciousness, however, is not the principal end in itself, but as it fosters spiritual production—science, art, morals, and the rest. The productive activity of spirit, as the author again insists, means reflection, and reflection is conditioned by silence. Production is action, an energizing of the whole spirit. In its various forms, even in scientific work, it includes imagination. While imagination depends on material from without, it requires also withdrawal from outward impressions in order to the work of combination and elaboration. And for this, once more, silence is needed, inner silence no less than the more familiar outer type.

Part II, as has been already noted, is a sketch of the history of opinion. It continues and illustrates the point of view adopted in the earlier divisions of the essay. The spirit of the whole is best summed up in the paragraph with which Professor Tauro concludes his pedagogical inquiry: "In opposite ways, mystical educators, abusing silence as a means of spiritual education, the energists, insisting on the education of the senses and on outer action, prejudice the integral formation of the human spirit. It is necessary to educate the powers of expression, in order that they may ever better respond to inward impulses and the man reveal himself in act; but it is needful, also, not to neglect the powers of inhibition and arrest, among them silence, first of all."

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Epochs in Buddhist History. KENNETH J. SAUNDERS. The University of Chicago Press. 1924. Pp. 244.

In his introduction to this very readable work Professor Saunders writes: "Of the thoughts which have come to me during twelve years study of the religion of Gotama Buddha, I will here set down by way of introduction these: (1) that the great keynotes of our modern scientific thinking, causality and the unity of the universe, even if Gotama did not first formulate them, were popularized by him; and that this is one of the most remarkable achievements in the history of human thought; (2) that the conviction which rings through his words of a moral purpose governing the universe, of the sure reward of good and evil, is even more sublime; (3) that his anticipation of modern psychological theories deserves close and respectful study; (4) that his "religion," the influence of his words

and deeds, is still very much alive, and still supplies a felt want in Asia; (5) that with all its accretions and corruptions it still has much to teach the Western World; (6) and that what men have made of it is eloquent of what they are made of: for its rationalism has needed to be reinforced by mysticism; its moral code has been driven to seek other sanctions than the enlightened common sense he appealed to; and the devotion he strove to disentangle from his own person has clung tenaciously to it."

The book itself is an attractively printed and bound volume of 211 pages, some 19 pages of introductory matter and 32 pages of appendices. Into this all too narrow compass, in view of the vast subject which is treated, the author has compressed an amazing wealth of facts. He is master of a style that is clear, concise, vivid, and often beautiful. He has a firm grasp of the main tendencies in the evolution of Buddhism and never allows himself (or his readers) to become buried in detail. It is evident that he has made excellent use of unusual opportunities for leisurely and extensive travel and intimate acquaintance with many "Eastern scholars trained in the scientific methods of the West who yet see Buddhism from within." His highest qualification, however, is a keen sensitiveness to the religious values beneath unfamiliar and even uncouth forms, a delicate sympathy that never fails to place him and his readers *en rapport* with the environment, whether that be one of the sombre rock-hewn temples of Ceylon, the great golden Shwe Dagon at Rangoon, the rocky fastnesses of Korea, or the exquisitely subtle spiritual atmosphere of religious Japan.

Perhaps the chief value of *Epochs in Buddhist History* will be found in its emphasis upon the variety and richness of early Buddhist teaching. Buddhism has its orthodoxies and its bigotries, as have other religions; and it has sometimes been the fashion, even among scholars who have striven to be impartial, to regard the austere, atheistic, annihilationist Buddhism of Ceylon as representing the full range of the Master's thought. Our author, however, insists that to view the religion of Gotama Buddha in this fashion is to misunderstand it seriously. The austere Hinayana Buddhism, that of Ceylon, Burma, Siam, and Cambodia, is but one of many vigorous and divergent tendencies. Original Buddhism contained not only the Hinayana doctrines but the germs at least of the characteristic Mahayana beliefs. It can be truly appreciated only as we study its development in *all* its principal directions.

The root principle of Buddhism is a conviction that the universe is one of law, a recognition of the supremacy of causality. The point of view of modern science, so recently and so hardly won, was proclaimed in India six centuries before Christ with calm assur-

ance. The reign of law was acknowledged in the inmost recesses of life. And the announcement of the Kingdom of Law was welcomed as the gospel of a great deliverance.

In order to give men liberty the new teacher first convinced them of the universality of law. . . . To men haunted by the idea of capricious deities on the one hand and beset on the other by deterministic teachings of a monistic philosophy, here was a great new conviction that the universe is orderly and that man is free to shape his own destiny. . . . Even to-day men orphaned in the world of faith find in it, as he popularized it, a gospel of salvation; there are groups of European monks, for instance, to whom it has given a new meaning in life. Familiar with it as science, in him they find it as religion!

"Out of the seeming pessimism of this philosophy of transciency emerges a sane optimism. . . . Buddhism insists on Dukkham, sorrow, in order that it may show men the way to Sukkham, happiness: 'One thing only do I teach, O monks,—sorrow and the uprooting of sorrow' . . .

"The early Sangha was therefore a happy company; there was 'something vernal in the air' and at times a contagion of joy can be seen to pass from these monks and nuns to the people about them. . . . They believed that they were seeing life steadily and seeing it whole and they had a purpose great enough to claim their whole energies—to lead the world out of confusion and superstition and fear into a serene peace. . . . Above all they believed that they would not be reborn to sorrow and the old obsession was gone forever. Let the student ponder the Psalms of the Early Buddhists and he will find himself responding to their joy."

In the various chapters of his book Professor Saunders traces the spread of Buddhism throughout the East. He traces also the dialectic by which, in the loving memory of his followers, a human teacher was transformed into an Eternal Being with all the attributes of divinity, a doctrine of salvation through rigid and severe self-discipline into one of salvation by grace and through faith, an ideal of perfected aloofness (the Arhat of Hinayana Buddhism) into one of sacrificial, loving service (the Bodhisattva of the Mahayana faith). It is a fascinating story well told. The reader catches glimpses of forceful personalities, real in spite of their remoteness in time, in manner of life, and in modes of thought. He is brought into contact with spiritual energies that have moulded the life of perhaps the largest portion of the human race. A number of the classic works of this Eastern faith, so similar in many ways to Western Christianity and yet in so many ways profoundly different, are summarized with extraordinary skill. The result can not but

be a more intelligent and sympathetic understanding—not of Buddhism alone—but of Eastern Religion as a whole, and indeed of the essential nature of all religion.

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JOURNALS AND NEW BOOKS

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REVUE PHILOSOPHIQUE. L^e^ Année, Nos. 3 et 4. Le sentiment de la "présence invisible" et de la direction divine: *J. H. Leuba.* Le réalisme nominal chez l'enfant: *J. Piaget.* Réalisme, commodité et positivisme: *P. Dupont.* La théorie de la connaissance chez A. Comte: *R. Hubert.* Le problème cosmogonique. Son origine, son évolution, sa valeur: *P. Busco.*

SCIENTIA. Vol. XXXVII, N. CLV–3. Das Problem der Materie und die Relativitätstheorie: *G. Mie.* Enseignements donnés à la Géologie par les Volcans de la Lune: *S. Meunier.* Sulla pretesa limitazione die sensi: *C. Ranzoli.* Industrial Unrest: *F. J. C. Hearnshaw.*

PSYCHOLOGICAL REVIEW. Vol. 32, No. 2. The Man, G. Stanley Hall: *W. H. Burnham.* G. Stanley Hall as a Psychologist: *E. D. Starbuck.* Psychological Objectivism: *C. M. Diserens.* The Subject's Report: *W. S. Hunter.* Purposive Striving as a Fundamental Category of Psychology: *A. P. Weiss.*

ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd 96, Heft 5 u 6. Versuche über die Beziehungen zwischen Bewegungsund Gestaltwahrnehmung (1 Abhandlung): *W. Ehrenstein.* Experimentelle Beiträge zur Untersuchung des binokularen Sehens: *G. Skubich.* Ueber die sogenannten "hervortretenden" Farben: *S. Belaiew-Exemplarsky.*

PSYCHOLOGICAL CLINIC. Vol. XV, No. 9. Tests and Norms at the Six Year Old Performance Level: *C. Easby-Grave.* Vol. XVI, Nos. 1–2. Psychological Diagnosis and the Psychonomic Orientation of Analytic Science: *Lightner Witmer.* An Analytical Study of One Hundred Twenty Superior Children: *Alice M. Jones.*

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NOTES AND NEWS

To the Editors of the Journal of Philosophy:

On page 135 of Volume XXII of your journal, Mr. Sterling P. Lamprecht makes the following statement in regard to my beliefs: "Professor Leighton . . . clearly does hold that moral principles *have no meaning for man* [italics mine] unless they are also structural in reality as a whole."

To the best of my knowledge I do not hold now, nor have ever held, either clearly or unclearly, the view above attributed to me. Doubtless there is some serious flaw in my thinking, but I can not see that it would clearly follow from the references, either to the religious vision of Jesus or the descriptions of religion, that I must, of necessity, hold that moral principles have no meaning for man, if the universe be a brute mass. There is quite a long interval between holding that the firm conviction that goodness has a cosmic basis strengthens greatly the moral endeavor and holding that absence of such belief deprives moral principles of all human meaning. I have never entertained the latter view. J. A. Leighton

Ohio State University

George Stuart Fullerton, visiting professor of philosophy at Vassar College, died very suddenly on March 23 at Poughkeepsie, New York. Professor Fullerton was born at Fatehgarh, India, August 18, 1859. He was instructor at the University of Pennsylvania 1883–1885, adjunct professor, 1885–1887, and professor of philosophy 1887–1904. From 1904–1917 he was professor of philosophy at Columbia University. He was American exchange professor at Vienna and other Austrian universities during 1913–14, and was appointed honorary professor at the University of Vienna by Emperor Francis Joseph in 1914. He is the author of many books among which are *The Philosophy of Spinoza, A System of Metaphysics, The World We Live In,* and *A Handbook of Ethical Theory.*